

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 59447W0008	FOR FURTHER ACTION		see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2004/043447	International filing date (<i>day/month/year</i>) 23/12/2004	(Earliest) Priority Date (<i>day/month/year</i>) 30/12/2003	
Applicant 3M INNOVATIVE PROPERTIES COMPANY			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/043447

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D471/04 C07D471/14 A61K31/437 A61P37/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/76519 A (3M INNOVATIVE PROPERTIES COMPANY) 21 December 2000 (2000-12-21) claim 1; examples 1-231 -----	1-34
A	WERMUTH ET AL: "The Practise of Medicinal Chemistry" PRACTICE OF MEDICINAL CHEMISTRY, 1996, pages 203-237, XP002190259 page 209 -----	1-34
X	WO 03/103584 A (3M INNOVATIVE PROPERTIES COMPANY) 18 December 2003 (2003-12-18) claims 1,15; examples 34-53,102,113,117,118 ----- -/--	1-3, 9, 10, 13-28, 33, 34



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

16 August 2005

Date of mailing of the international search report

24 08. 2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Grassi, D

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/043447

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/096998 A1 (GERSTER JOHN F ET AL) 22 May 2003 (2003-05-22) claim 1 -----	1,2,7,8, 11, 13-28, 31,32
P,X	WO 2004/058759 A (3M INNOVATIVE PROPERTIES COMPANY) 15 July 2004 (2004-07-15) pages 201-214; claim 10 -----	1-34
X	US 6 525 064 B1 (DELLARIA JOSEPH F ET AL) 25 February 2003 (2003-02-25) claim 1; examples 6,31,70,88,113,136 -----	1-3,9, 10, 13-28, 33,34

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/043447

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1(part),2(part),3,9,10,13-28(part),33,34

Compounds according to claim 1 in which RA and RB independently are substituents.

2. claims: 1(part),2(part),4,5,12-28(part),29,30

Compounds according to claim 1 in which RA and RB taken together form a fused aryl ring.

3. claims: 1(part),2(part),6,12-28(part)

Compounds according to claim 1 in which RA and RB taken together form a fused 5 to 7 membered saturated ring.

4. claims: 1(part),2(part),7,8,11,13-28(part),31,32

Compounds according to claim 1 in which RA and RB taken together form a fused heteroaryl- or a 5 to 7 membered saturated heterocyclic-ring.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/043447

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0076519	A	21-12-2000	US 6331539 B1	18-12-2001
			AU 766565 B2	16-10-2003
			AU 5328100 A	02-01-2001
			AU 772179 B2	08-04-2004
			AU 5328400 A	02-01-2001
			AU 773113 B2	20-05-2004
			AU 6334900 A	02-01-2001
			BR 0011433 A	05-03-2002
			BR 0011448 A	14-12-2004
			BR 0014214 A	08-09-2004
			CA 2376296 A1	21-12-2000
			CA 2376304 A1	21-12-2000
			CA 2376305 A1	21-12-2000
			CN 1353609 A	12-06-2002
			CN 1354663 A	19-06-2002
			CN 1355701 A ,C	26-06-2002
			CZ 20014363 A3	13-03-2002
			CZ 20014364 A3	13-03-2002
			EE 200100668 A	17-02-2003
			EE 200100669 A	17-02-2003
			EE 200100670 A	17-02-2003
			EP 1198232 A1	24-04-2002
			EP 1198233 A1	24-04-2002
			EP 1187613 A1	20-03-2002
			EP 1438958 A1	21-07-2004
			HR 20010888 A1	31-08-2003
			HR 20010889 A1	31-08-2003
			HR 20010890 A1	31-08-2003
			HU 0201431 A2	28-08-2002
			HU 0201664 A2	28-08-2002
			HU 0202254 A2	28-10-2002
			JP 2003501466 T	14-01-2003
			JP 2003501473 T	14-01-2003
			JP 2003501474 T	14-01-2003
			MX PA01012508 A	02-07-2002
			MX PA01012547 A	14-10-2003
			MX PA01012598 A	10-04-2002
			NO 20015502 A	07-02-2002
			NO 20015503 A	08-02-2002
			NO 20015504 A	07-02-2002
			NZ 515639 A	29-10-2004
			NZ 515967 A	31-10-2003
			NZ 515968 A	31-10-2003
			PL 352257 A1	11-08-2003
			PL 352554 A1	25-08-2003
			PL 364249 A1	13-12-2004
			SK 17922001 A3	04-04-2002
			SK 17932001 A3	04-06-2002
WO 03103584	A	18-12-2003	AU 2003237386 A1	22-12-2003
			BR 0311648 A	19-04-2005
			CA 2488801 A1	18-12-2003
			EP 1513524 A2	16-03-2005
			WO 03103584 A2	18-12-2003
			US 2004010007 A1	15-01-2004
			US 2005032830 A1	10-02-2005
US 2003096998	A1	22-05-2003	US 6514985 B1	04-02-2003

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/043447

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003096998	A1	US 6194425 B1	27-02-2001
		US 2005107421 A1	19-05-2005
		US 2003083500 A1	01-05-2003
		US 2003212093 A1	13-11-2003
		US 2004006098 A1	08-01-2004
		US 2004023932 A1	05-02-2004
		US 2004204436 A1	14-10-2004
		US 2002173653 A1	21-11-2002
		US 2002173654 A1	21-11-2002
		AT 277046 T	15-10-2004
		AU 753864 B2	31-10-2002
		AU 1912399 A	28-06-1999
		BR 9814275 A	03-10-2000
		CA 2311456 A1	17-06-1999
		CN 1284957 A ,C	21-02-2001
		DE 69826518 D1	28-10-2004
		EE 200000349 A	15-10-2001
		EP 1512685 A1	09-03-2005
		EP 1512686 A1	09-03-2005
		EP 1040112 A1	04-10-2000
		ES 2227902 T3	01-04-2005
		HR 20000363 A1	30-06-2001
		HU 0101155 A2	28-12-2001
		JP 2001525411 T	11-12-2001
		NO 20002663 A	11-08-2000
		NZ 504776 A	26-07-2002
		PL 341159 A1	26-03-2001
		RU 2221798 C2	20-01-2004
		SI 1040112 T1	28-02-2005
		SK 8352000 A3	12-03-2001
		TR 200001705 T2	23-07-2001
		UA 67760 C2	15-12-2000
		WO 9929693 A1	17-06-1999
<hr/>			
WO 2004058759	A	AU 2003301052 A1	22-07-2004
		WO 2004058759 A1	15-07-2004
		US 2004147543 A1	29-07-2004
<hr/>			
US 6525064	B1	US 2002107262 A1	08-08-2002
		US 2004019076 A1	29-01-2004
		US 2004147533 A1	29-07-2004
		AU 2002312414 A1	23-06-2003
		AU 2002315006 A1	23-06-2003
		AU 2002345615 A1	23-06-2003
		BR 0214749 A	31-08-2004
		BR 0214752 A	02-08-2005
		BR 0214999 A	28-12-2004
		CA 2468164 A1	19-06-2003
		CA 2468174 A1	19-06-2003
		CA 2468659 A1	19-06-2003
		CN 1599738 A	23-03-2005
		CN 1599739 A	23-03-2005
		CN 1599740 A	23-03-2005
		EP 1453829 A1	08-09-2004
		EP 1451186 A2	01-09-2004
		EP 1451187 A1	01-09-2004
		HR 20040503 A2	31-12-2004
		HR 20040504 A2	31-12-2004

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/043447

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6525064	B1	HR 20040506 A2	31-12-2004
		JP 2005513052 T	12-05-2005
		JP 2005511745 T	28-04-2005
		JP 2005511746 T	28-04-2005
		WO 03050117 A1	19-06-2003
		WO 03050118 A1	19-06-2003
		WO 03050119 A2	19-06-2003
		US 6545016 B1	08-04-2003
		US 6545017 B1	08-04-2003
		US 2003186949 A1	02-10-2003
		US 2003195209 A1	16-10-2003
		US 2003162806 A1	28-08-2003
		US 2003176458 A1	18-09-2003
		US 2004157879 A1	12-08-2004
		US 2004186128 A1	23-09-2004
		AU 3954702 A	18-06-2002
		BR 0116034 A	03-08-2004
		CA 2431040 A1	13-06-2002
		CN 1478090 A	25-02-2004
		CZ 20031593 A3	14-01-2004
		EE 200300273 A	16-02-2004
		EP 1343783 A2	17-09-2003
		HR 20030465 A2	30-06-2004
		JP 2004525868 T	26-08-2004
		MX PA03005013 A	05-09-2003
		NO 20032453 A	16-07-2003
		NZ 526085 A	24-12-2004
		PL 365739 A1	10-01-2005
		SK 7142003 A3	07-10-2003